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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 10/686,731 | 10/17/2003 | J. Wayne Thompson | M4065.0345/P345-A | 8327 |
| 24998 | 7590 | 09/20/2005 | | |
| DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP 2101 L Street, NW Washington, DC 20037 | | | EXAMINER NGUYEN, VAN THU T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2824 | |
| DATE MAILED: 09/20/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|---|
| Office Action Summary | Application No. 10/686,731 | Applicant(s) THOMPSON ET AL. | |
| | Examiner VanThu Nguyen | Art Unit 2824 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-9, 15, 16, 25-31, 33, 35-42, 44 and 46-54 is/are pending in the application.
- 4a) Of the above claim(s) 4-9, 15, 16, 25-31, 37-42, 44 and 46-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/24/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II, claims 33, 35-36 in the reply filed on September 1, 2005 is acknowledged.
2. Claims 4-9, 15-16, 25-31, 37-42, 44 and 46-54 are withdrawn from further consideration.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 33, 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamade et al. (U.S. Patent No. 5,650,975, referring as Hamade).

Regarding claims 33, 35-36, Hamade discloses, in FIG. 2, a method of operating an integrated circuit memory device, said method comprising:

providing a layer of metalized traces including a plurality of I/O traces (e.g.

GIO12, GIO11, /GIO11, /GIO12 ... /GIO42);

including within said layer a plurality of non-I/O traces (e.g. LIOEQ1, LIOEQ2), and disposing at least one non-I/O trace between two I/O traces (e.g. LIOEQ1 is between GIO11 and /GIO11);

introducing a first plurality of I/O signals (i.e. when read/write data are transmitted in GIO lines, signals are introduced), each inherently exhibiting a transient

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portion (i.e. when data being transferred) and a non-transient portion (i.e. when data not being transferred), onto said plurality of I/O traces respectively;

introducing a second plurality of non-I/O signals (i.e. transmitted equalizing signals onto LIOEQ1 and LIOEQ2 to turn on/off local I/O equalizers) each inherently exhibiting a transient portion (e.g. when equalizing signals are high) and a non-transient portion (e.g. when equalizing signals are low) onto said plurality of non-I/O traces respectively, and inherently applying said signals such that said I/O signal transient portions occur only during non-transient portions of said non-I/O signals

It is noted that most of the claimed limitations are inherent within the method of operating the memory device because:

- (i) it would have been obvious for one with ordinary skill in the art to realize, for example, LIO11 and /LIO11 transmit read/write data to/from GIO11 and /GIO11 concurrently, LIOEQ1 transmit equalizing signal to equalize LIO11 and /LIO11 only after data have transmitted.
- (ii) any memory device is built on a substrate and a plurality of layers above it, for example, layer #1 for word lines, layer #2 for bit lines, layer #3 for local I/O lines, layers #4 for global I/O lines, etc, and it also obvious that global I/O lines should be spaced farther from substrate than local I/O lines.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- (i) Jinbo et al. (U.S. Patent No. 6,339,549), FIG. 2.

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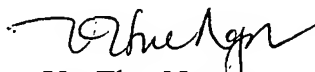
(ii) Wada et al. (U.S. Patent No. 5,808,930), FIG. 6.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881. The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 16, 2005


VanThu Nguyen
Primary Examiner
Art Unit 2824